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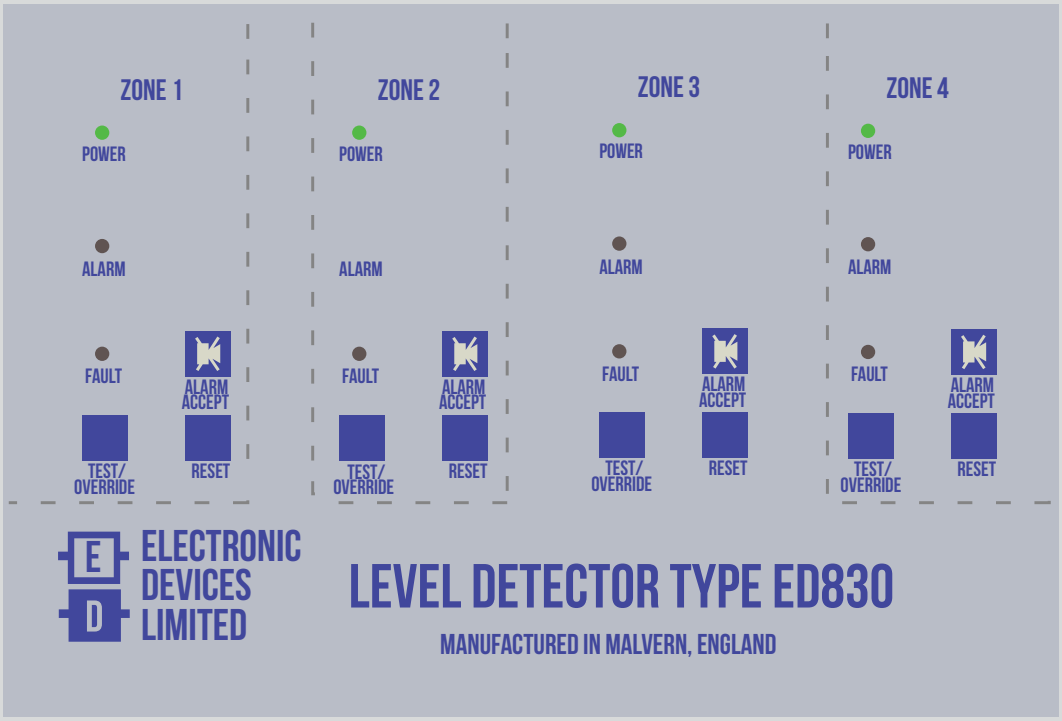

ED830

BILGE LEVEL ALARM CONTROL UNIT

INSTALLATION MANUAL

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GENERAL

The ED830 is a four zone bilge level alarm control unit designed to meet the MCA code of practice. Each of the four zones are independent from each other with completely separate circuitry, switches, fuses, lamps etc.

Zone wiring is fault monitored with the aid of a 4K7Ω resistor, which must be fitted at the end of the line zone wiring in the form of a end of line float switch. Both on and off delay times can be adjusted for each zone giving a pump run on facility and avoiding nuisance alarms due to movement of the vessel.

Please note it is the responsibility of the end user to test the equipment regularly to ensure correct operation.

SPECIFICATION

Power input 12VDC or 24V DC

Typical Current consumption per zone:

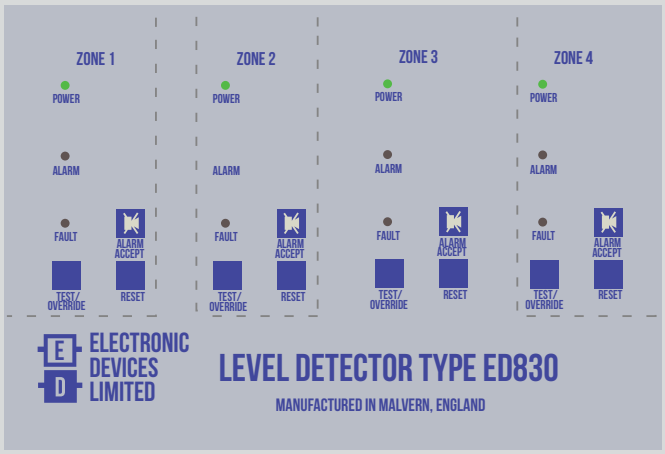
in non alarm condition =	20mA
in alarm condition =	25mA
with short circuit wiring fault =	70mA
Ambient temperature range	-25C to +55C

Note sounder, beacon and pump consumption not included.

ENCLOSURE DIMENSIONS

See diagram on page 4

FUNCTION DIAGRAM



POWER — Illuminates green when power input is active.

ALARM — Illuminates red when zone in alarm.

FAULT — Illuminates amber when zone in fault.

Deactivates outputs connected to alarm acceptable contacts

RESET — Resets the control panel to display current condition.

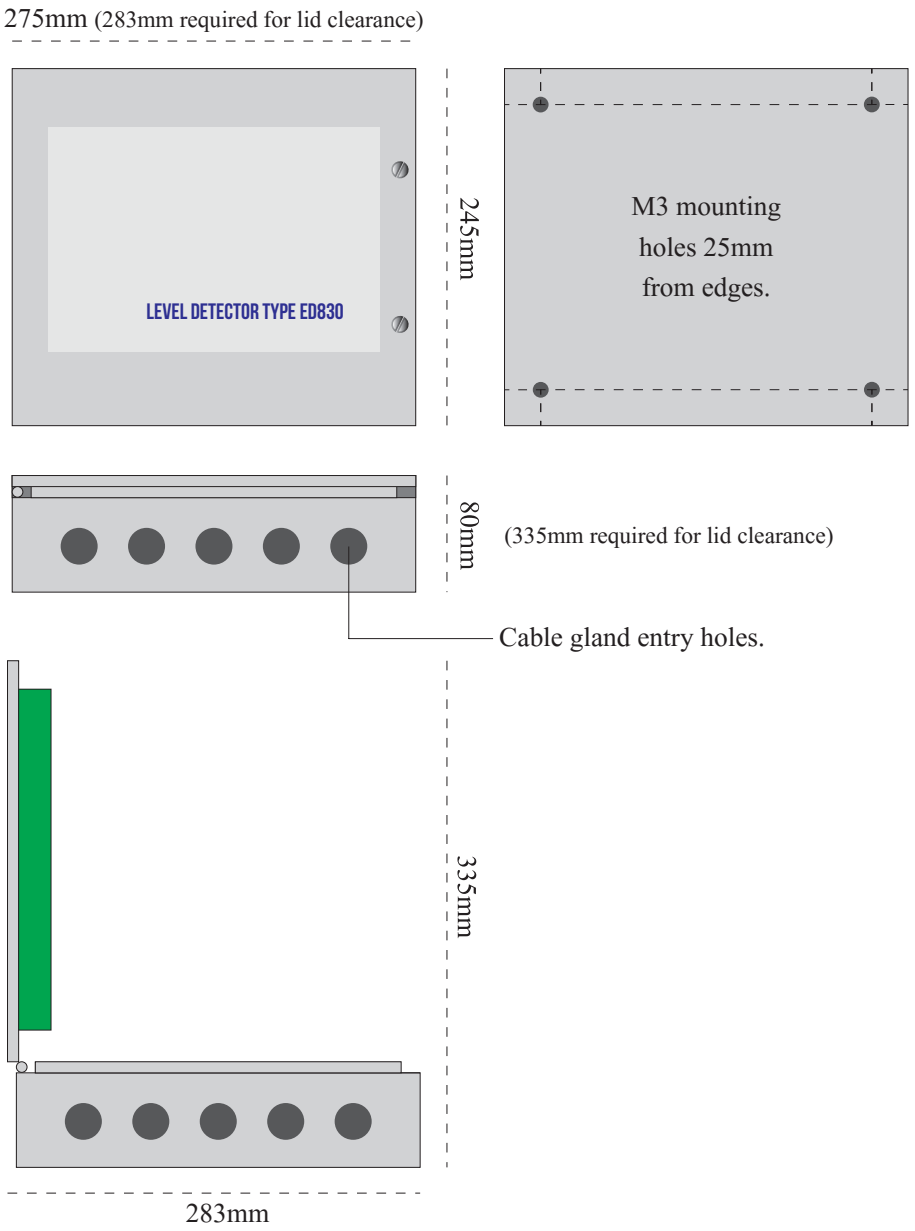
TEST/ OVERRIDE — Activates all connected outputs.

INSTALLATION - CONTROL PANEL

The control unit should be mounted in a convenient place for the operator, away from possible mechanical damage or ingress of moisture and allowing the enclousure to swing open for ease of adjustment. **(See diagram below)**

N.B. If the only suitable position is exposed to dust or moisture then consideration should be given to having the enclosure to I.P.54 standards or above. Contact Electronic Devices Ltd if you require advice or assistance.

The enclosure is opened by releasing the two screws on the right hand side of the enclosure and is secured to a wall or bulkhead by four screws or bolts at the rear of the enclosure. Sufficient cable should be allowed so that the enclosure can swing open on its hinges. The float switch should of course be mounted as low as possible in the bilge and will be impervious to attack from both fresh and salt water, diesel oil, etc. It requires approx 30mm-40mm of travel of the float to cause operation of the switch.

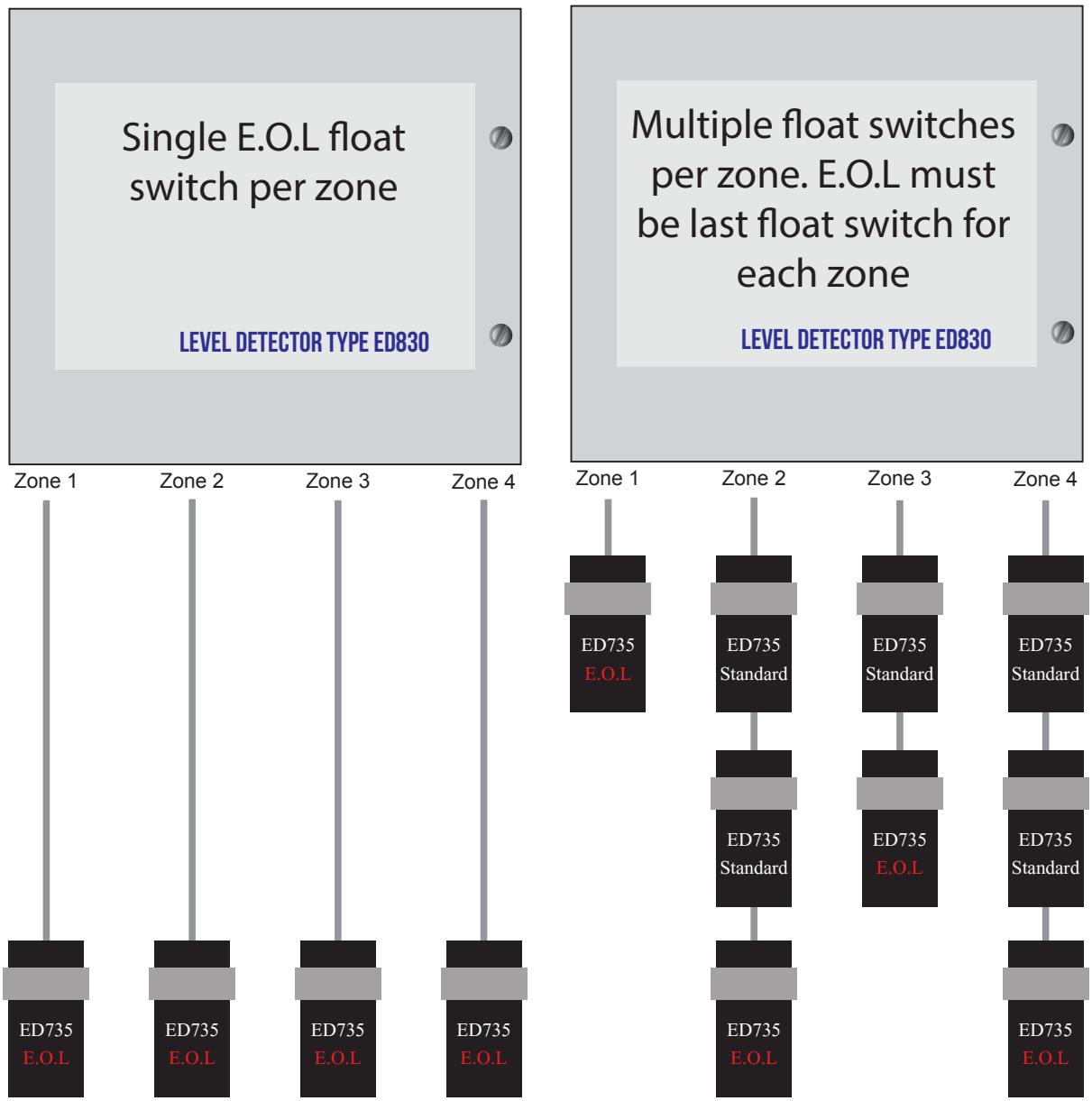


INSTALLATION - FLOAT SWITCHES

CONNECTIONS

Ensure the intended supply voltage is suitable for the ED830 supplied, both 12Vdc and 24Vdc models are available.

The diagram below shows both single and multiple float switch per zone connection possibilities.



TESTING

ALARM OUTPUT FUNCTIONS

The ED830 has three sets of voltage free contacts for each zone. One set for the pump, if fitted. The pump must have a current consumption of less than 6A or be driven via a suitable external relay. The second set of contacts are for a low power xenon beacon which could be fitted high on the vessel (e.g top of the mast) to attract attention whilst moored etc. The third set is for electronic audio alarms, this is alarm acceptable, if this facility is not required the beacon or pump contacts can be used. All peripheral equipment connected to the voltage free contacts should be supplied via external fuses or circuit breakers.

REGULAR TESTING

It is very important to check correct operation of all the bilge level alarm components regularly, and the tests below should be performed at regular intervals. The magnetic circuit within the float allows either normally closed or normally open operation. When the float is raised the circuit will be made and the 1K5Ω resistance will be connected across the zone line.

TESTING

On completion of installation it is important that both short circuit and open circuit faults are simulated and correct alarm operation checked.

Check the operation of the unit by testing each float switch separately. Remove the float switch from its mounting bracket and lower into a pail of water. The appropriate light should illuminate and the external items (sounders/beacons/pump) should operate after a small delay set by adjustable ON delay. The sounder can be muted by pressing alarm accept. Remove the float switch from the water, the beacon and pump will continue to operate. Press the reset button and after the short off delay the pump and beacon will stop.The ON delay and pump RUN ON delay can be adjusted by rotating the potentiometers VR2 and VR3 respectively, clockwise to increase. See adjusting zone reaction time and reset time below.

TEST OUTPUT FUNCTIONS

The ED830 TEST/OVERRIDE button can be used to test the outputs on each individual zone.

ADJUSTMENTS - ON DELAY & PUMP RUN ON DELAY

ADJUSTING ZONE ON DELAY TIME

This adjustment determines the length of time needed before the pump and other outputs operate after the float switch is submerged in water.

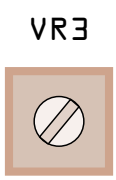
The on delay can be adjusted by rotating the **VR2** potentiometer, clockwise to increase ON delay time and anti-clockwise to decrease ON delay time.

ADJUSTING ZONE PUMP RUN ON DELAY TIME

This adjustment determines the length of time the pump and other outputs continue to operate after the float switch is no longer submerged in water.

The pump run on (reset) delay can be adjusted by rotating the **VR3** potentiometer, clockwise to increase pump run on delay and anti-clockwise to decrease pump run on delay time.

ZONE CIRCUIT, CONNECTION & ADJUSTMENTS DIAGRAM



VR3

Use VR3 to adjust RESET TIME

Clockwise turn increases pump RUN ON delay time

Anti-clockwise turn decreases pump RUN ON delay time

VR2

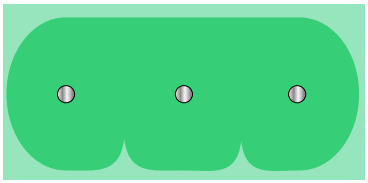
Use VR2 to adjust ON DELAY TIME

Clockwise turn increases ON delay time

Anti-clockwise turn decreases ON delay time

SPARK QUENCHED FOR PUMP

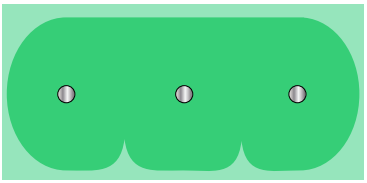
C NO NC



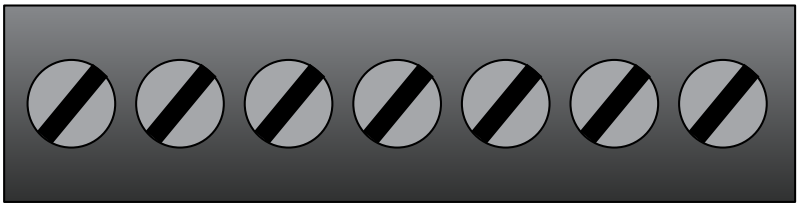
NON ACCEPTABLE CONTACTS FOR PUMP (VOLT FREE)

NON ACCEPT

C NO NC



NON ACCEPTABLE CONTACTS (VOLT FREE)



+VE -VE | +VE -VE | C NC NO

DC INPUT | ZONE | ALARM CONTACTS ACCEPTABLE

WARNING! Ensure correct voltage before connecting 12VDC and 24VDC models available

ACCEPTABLE CONTACTS FOR SOUNDER (VOLT FREE)

CONNECT FLOAT SWITCH(ES) WITH E.O.L FLOAT SWITCH AS LAST FLOAT SWITCH